



Minnesota Department
of Agriculture

Plant Protection

New Name!
Formerly the EAB Review



The New Plant Pest INSIDER

Your guide to new & emerging plant pests



January Edition 2014

What are the Effects of SUBZERO Temps on the Emerald Ash Borer?

The emerald ash borer (EAB) spends the winter as larvae beneath the bark of ash trees. The extent of winter mortality depends on the condition of emerald ash borer larvae and the severity of cold experienced during the winter. Recent media reports have described the potential impact of extreme cold weather on EAB.

Studies by the U.S. Forest Service and Minnesota Department of Agriculture (MDA) have found that substantial EAB mortality can occur when temperatures fall below -20°F and particularly if temperatures fall below -30°F.

An EAB larva kills ash trees when abundant in the tree. Cold mortality may help to delay the increase of EAB in levels that kill trees. However, unless high rates of mortality are achieved on a yearly basis, EAB numbers should still be expected to reach levels that kill trees.

While any potential reduction to EAB numbers is a good thing for ash trees, winter mortality should not be relied upon to prevent EAB from reaching tree-killing abundances in any of the currently known EAB-

Inside this issue of the Insider

Effects of SubZero temps on EAB

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Walnut Twig Beetle, Carrier of Thousand Cankers Disease of Walnut, Is Found in Maryland

infested areas in Minnesota.

Stay tuned as the Forest Service and the MDA will be assessing levels of mortality yet this winter while conducting work to track EAB populations in Minnesota.

[Click Here for Interactive Map of Known EAB-infested areas in Minnesota.](#)



Plant Hardiness Zone Map for Minnesota

Average Annual Extreme Minimum Temperature

Source: USDA
[Click to preview Map](#)

How do Other Plant Pests Survive Minnesota Winters?

Emerald ash borer is not the only invasive pest that is affected by subzero temperatures. However, Minnesota winters are too cold for most pests and insects to survive without special strategies and adaptations. Learn how gypsy moth and other insects cope with cold temperatures.



Minnesota Winters

CLICK HERE: To learn about [insect survival strategies](#) for Minnesota winters.

Great News! EAB Parasitic Wasps are Reproducing in Minnesota

The Minnesota Department of Agriculture (MDA) confirmed that stingless wasps are doing their job in attacking emerald ash borer (EAB). Two years after releasing the wasps at Great River Bluffs State Park south of Winona, MDA staff has found reproducing wasp populations. ***This is the first time this wasp species has been recovered in Minnesota.*** The wasps are part of a biological control effort to naturally slow the spread of EAB. Since the EAB is not native to North America, it has no known predators here. So, scientists went to Asia, EAB's native home, and found stingless wasps that feed on and kill ash borer eggs and larvae. These wasps do not attack humans.

The MDA first released stingless wasps in Great River Bluffs State Park in September 2011. Wasps have also been released in Houston County and in the Twin Cities, areas known to be infested with EAB. These biocontrol efforts have been funded by the Environment and Natural Resources Trust Fund as recommended by the Legislative Citizens-Commission on Minnesota Resources.

[Click Here: To see more pictures of the recovered parasitic wasps.](#)



A *Tetrastichus planipennisi* adult inside of plastic rearing cup.
Source: MD



Tetrastichus planipennisi larvae found inside of an EAB gallery at Great River Bluffs
Source: MDA

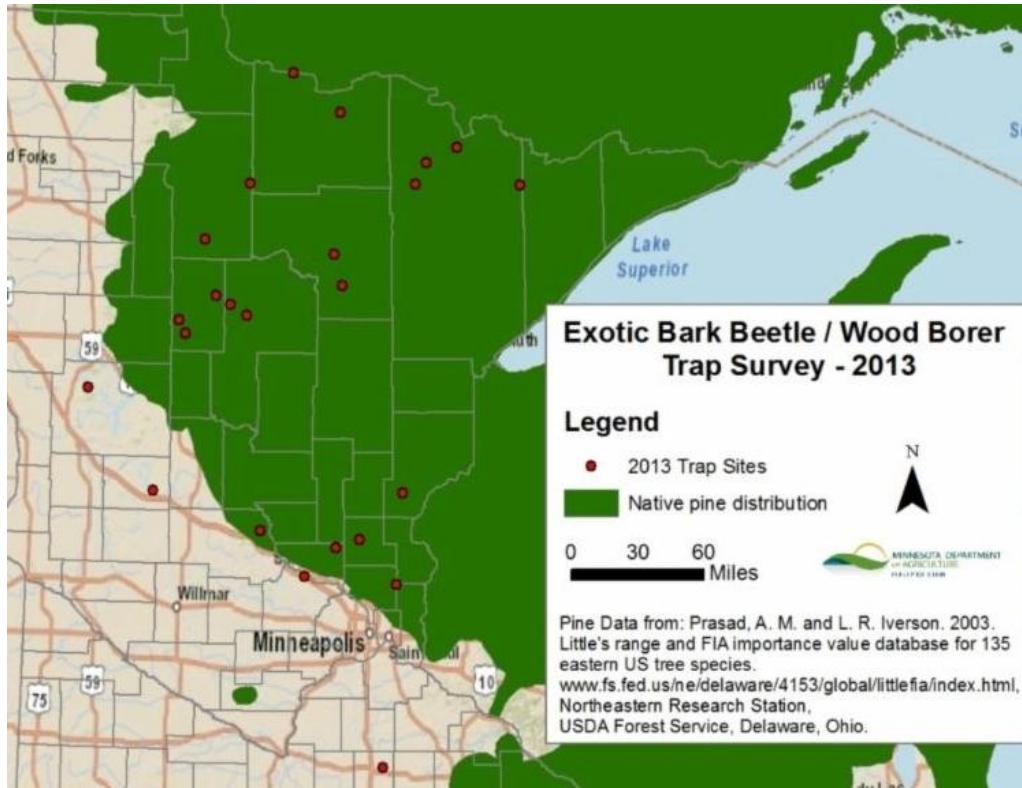
Mountain Pine Beetle Survey Update

Mountain pine beetle (MPB) - *Dendroctonus ponderosae* is one of the most destructive forest pests in North America. MPB is currently in the midst of an unprecedented population outbreak in the western U.S. and Canada that has killed millions of pine trees. MPB is native to western North America. The easternmost area where it is known to occur is the Black Hills area of South Dakota. There are two anticipated routes by which MPB may enter Minnesota: one is via a contiguous band of pine forest through northern Canada, the other is via movement of infested western pine into Minnesota.



Mountain Pine Beetle
Source: Javier Mercado, Colorado state University

In 2013, the Minnesota Department of Agriculture (MDA) implemented a survey for MPB and other exotic bark beetles and wood borers Minnesota (see map below). ***The survey concluded without finding any MPB.***



While this is good news, continued monitoring for MPB is needed. Therefore, the University of Minnesota and the MDA anticipate beginning a project in July of 2014 that includes additional monitoring for MPB by the MDA over three years. Through this project, we will increase trapping efforts for MPB, putting us in the best position to detect movement of MPB into Minnesota.

Walnut Twig Beetle, Carrier of Thousand Cankers Disease of Walnut, Is Found in Maryland

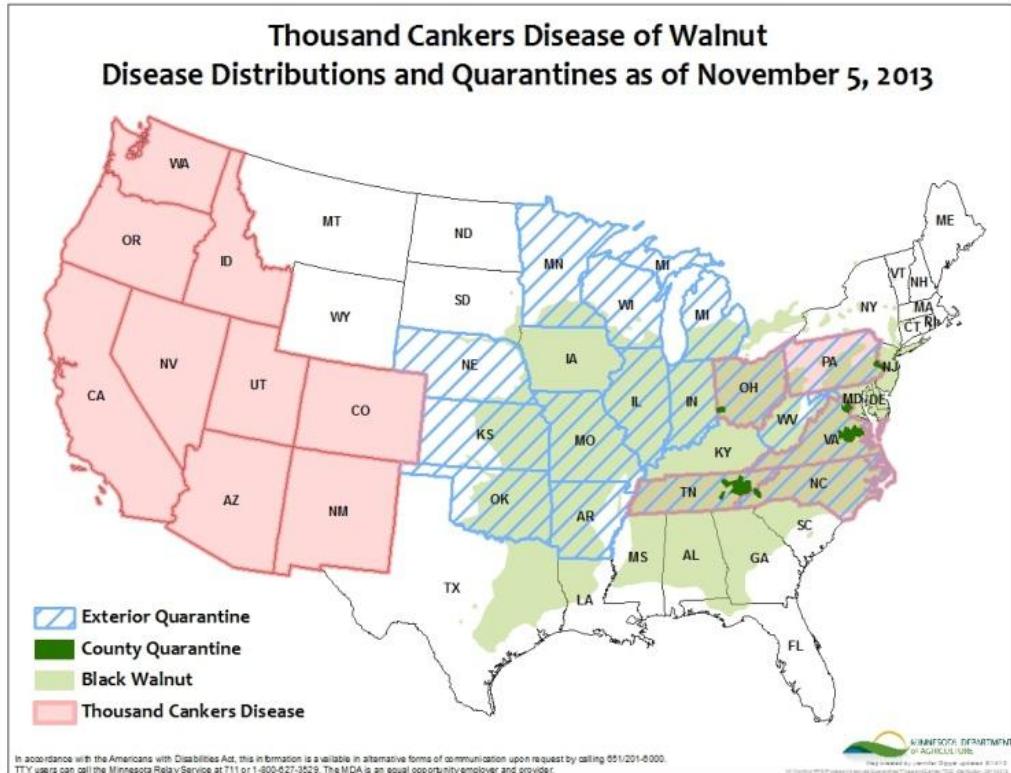
For the first time, the Maryland Department of Agriculture announced earlier this month that 30 walnut twig beetles (*Pityophthorus juglandis*) had been trapped in Cecil County, Maryland, in 2013. The beetle carries the fungus, *Geosmithia morbida*, and together they cause Thousand Cankers Disease (TCD) of walnut trees (*Juglans* species). Eastern black walnut (*Juglans nigra*) are particularly susceptible, dying within a few years of when symptoms are first observed (see photo). Branches from the Maryland walnut tree where the beetle trap was hung are being tested for the disease at this time.



Canopy Dieback
Source: MDA

Originally thought confined to western and southwestern United States, TCD was first found within the native range of eastern black walnut in 2010 in Tennessee. **If confirmed, Maryland becomes the 6th state within the native range of eastern black walnut to report thousand cankers disease (see map).**

Eastern black walnut is highly valued for lumber and veneer, nut meat industries in some states, and wildlife food. It is also an important tree along rivers and streams.



To protect our black walnut resource, in 2011 the Minnesota Department of Agriculture [enacted an exterior quarantine](#) that restricts movement of products that could be harboring TCD into Minnesota.

The list of walnut products restricted by the exterior quarantine includes: live walnut trees, walnut logs, walnut lumber, walnut nursery stock, wood chips and mulch made from walnut wood, walnut branches and roots, and packaging materials made from walnut wood. The quarantine also applies to all hardwood firewood. **The quarantine does not apply to** walnut nuts, nutmeat, walnut hulls; finished products made from walnut wood without bark, or processed lumber that is 100 percent bark-free, and kiln-dried with square edges.

[CLICK HERE: To Learn more about Thousand Cankers Disease of Walnut](#)

Learn More about these Emerging Pests



[Emerald Ash Borer](#)



[Gypsy Moth](#)



[Brown Marmorated Stink Bug](#)



[Asian Longhorned Beetle](#)

[Link to Other Pests](#)



If you suspect reportable pest:

1. Note the exact location,
2. Take a digital photo if possible and
3. Contact "Arrest the Pest"

"Arrest the Pest" voice mail 888-545-6684
[Email: Arrest.The.Pest@state.mn.us](mailto:Arrest.The.Pest@state.mn.us)

[SHARE & Forward this email](#)

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In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651/201-6000. TTY users can call the Minnesota Relay Service at 711 or 1-800-627-3529. The MDA is an equal opportunity employer and provider.